



HHS Public Access

Author manuscript

Subst Use Misuse. Author manuscript; available in PMC 2022 April 08.

Published in final edited form as:

Subst Use Misuse. 2022 ; 57(1): 76–85. doi:10.1080/10826084.2021.1990334.

Drinking to Fit In: The Effects of Drinking Motives and Self-Esteem on Alcohol Use Among Female College Students

Melissa R. Schick, M.A., Tessa Nalven, M.A., Nichea S. Spillane, Ph.D.

PATHS Lab, University of Rhode Island Department of Psychology

Abstract

Objective: Over the past two decades, rates of alcohol use among female students have risen to meet or even surpass those seen among males. Yet, little is known about factors that play a role in the relationship between drinking motives and alcohol consumption for female college students. The present study examines self-esteem as a moderator in the association between categories of drinking motives and alcohol use in a sample of female college students.

Method: Participants included 196 female undergraduates who reported drinking alcohol at least once in the preceding month ($M_{age} = 19.5$ years, 88.8% White) at a northeastern public university. Participants completed an online questionnaire assessing self-esteem, drinking motives, and past month alcohol use.

Results: Self-esteem was significantly negatively correlated with coping ($r = -.40, p < .001$) and conformity motives ($r = -.22, p = .002$) but not enhancement or social motives. Main effects predicting alcohol use were detected for enhancement ($b = 1.49, p < .001$), coping ($b = 1.73, p < .001$), and social motives ($b = 1.34, p < .001$), but not conformity motives or self-esteem. The interaction of conformity motives and self-esteem was significant ($b = -0.17, p = .04$). Simple slopes analyses revealed that conformity motives were significantly positively related to alcohol consumption for at low ($b = 1.53, p = .001$), but not high levels ($b = -0.39, p = .61$) of self-esteem. No other interactions were significant.

Conclusions: Assisting female college students with increasing their self-esteem may be an effective component of intervention programs targeting alcohol consumption, particularly among those who report drinking to fit in.

Keywords

college student; drinking motives; self-esteem; female

Introduction

College student alcohol use is of significant concern given the high rates of use and various negative associated consequences (Schulenberg et al., 2020). For instance, alcohol use is associated with missing classes, lower grades, and higher rates of interpersonal aggression

(Barnett et al., 2014; Hingson et al., 2016; Thompson et al., 2017). Further, more than 1,500 college student deaths are attributable to alcohol use each year (Hingson et al., 2017). Much of what is known about college student alcohol use is based on male students given that they have historically drank more and experienced greater consequences (Engs & Hanson, 1990; Hammer & Pape, 1997). However, over the past two decades, rates of alcohol use among female students have risen to meet or even surpass those seen among males (Kypri et al., 2005; Schulenberg et al., 2020). Female students are also at greater risk for experiencing certain alcohol-related consequences (e.g., sexual victimization, alcohol-related illness, blackouts; Abbey, 2002; Barnett et al., 2014; Nolen-Hoeksema, 2004; Sugarman et al., 2009). Thus, investigations that increase our understanding of factors that may mitigate risk for hazardous alcohol use among female college students are greatly needed.

Drinking motives, or individuals' self-reported reasons for drinking alcohol, have been found to be robustly related to college student alcohol use. They are most often conceptualized using Cooper's (2004) framework, which includes four categories: (1) enhancement (i.e., drinking to induce, increase, or maintain positive affect); (2) coping (i.e., drinking to ameliorate negative affect); (3) social lubrication (i.e., drinking to enhance social situations and make them more enjoyable); and (4) conformity (i.e., drinking because others are drinking, or to fit in). Overall, these motives are important proximal predictors of quantity of alcohol consumption, development and maintenance of drinking behaviors, and risk for experiencing negative alcohol-related consequences among college students (Carey & Correia, 1997; Cooper, 1994; Cooper et al., 1995; Crutzen et al., 2013; Merrill et al., 2014; Read et al., 2003). In general, endorsement of enhancement motives has been linked to risky or heavy drinking (Cooper et al., 2016b; Kuntsche et al., 2005), coping motives have been linked to later alcohol-related problems (Merrill et al., 2014), and social motives have been linked to greater alcohol consumption (Van Damme et al., 2013). Investigations into conformity motives are mixed, whereby some studies have found that endorsement of conformity motives is linked to greater alcohol use and related problems (Merrill & Read, 2010), and others find no such association (Crutzen et al., 2013; Kuntsche & Cooper, 2010). Additionally, coping motives have been linked to hazardous drinking for female, but not male college students (O'Brien et al., 2008), and evidence suggests that females are more likely to use alcohol to manage their emotional states than are males (mapping on to Cooper's emotion-driven enhancement and coping motives; Nolen-Hoeksema, 2012). However, the associations between alcohol use and enhancement, social, and conformity drinking motives have not been examined specifically among female college students. Given the malleable nature of drinking motives (Blevins & Stephens, 2016; Watt et al., 2006), the identification of factors influencing their association with alcohol use may give rise to efficacious ways to target them in unique ways for females.

One factor that may be protective against hazardous alcohol use is self-esteem, defined as an individual's self-perception and evaluation of his or her own self-worth (Gray-Little et al., 1997). Various theories of self-esteem have been put forth which might help to explain the link between self-esteem and drinking motives and alcohol consumption. For instance, self-determination theory suggests that people are motivated by three universal needs – autonomy, competence, and relatedness – and that one's self-esteem is in part based on the extent to which an individual believes that these needs have been met for them (Deci &

Ryan, 1980, 2004). Similarly, sociometer theory suggests that people have an innate need to belong, and that self-esteem acts as a barometer of one's perceived ability to belong (Leary, 2005; Leary & Baumeister, 2000). On the other hand, terror management theory suggest that self-esteem serves to buffer against anxiety (Greenberg et al., 1986). It is possible that, under any of these theories, self-esteem might serve to increase or decrease the likelihood that individuals will drink alcohol in response to various motives. For instance, it may be that when one's self-esteem is lower because their need for relatedness is not being met, they might be more likely to drink alcohol in response to conformity or social motives. Or it may be that individuals with low self-esteem might be motivated to drink alcohol to buffer anxiety and other negative states because their level of self-esteem alone is not sufficient to meet this need. Investigations focusing on the role of self-esteem in drinking motives and alcohol use are needed to examine the utility of these theoretical explanations.

A limited body of empirical work has examined the relation between self-esteem and endorsement of drinking motives and alcohol consumption. Some work has found that self-esteem based on the perception of living in accordance with one's values (i.e., morally-based self-esteem) is significantly associated with decreased endorsement of drinking motives (Lewis et al., 2007), while self-esteem based on other people's appraisals (i.e., contingent self-esteem) is positively associated with endorsement of all four categories of drinking motives and with frequency of alcohol use (Neighbors et al., 2004). Yet, global self-esteem (i.e., an individual's overall positive or negative attitude towards the self in its' totality as measured by the Rosenberg Self-Esteem Scale; Rosenberg et al., 1995) has been broadly linked to positive health outcomes, including reduction in alcohol use. For example, prior literature suggests that positive self-esteem is protective against the effects of trauma and gender discrimination among females (Kucharska, 2018) and is more protective against depressive symptoms for females compared to males (Moksnes & Espnes, 2012). With respect to alcohol use in particular, other literature has found that higher levels of global self-esteem is associated with later initiation of alcohol use (Patrick & Schulenberg, 2010; Richardson et al., 2013; Veselska et al., 2009) and with decreased alcohol consumption and increased perception of risks of alcohol use (Crocker, 2002; Luhtanen & Crocker, 2002; Luhtanen & Crocker, 2005). Moreover, an association has been found between self-esteem and alcohol consumption amongst female college students, in particular (Blank et al., 2016; Neumann et al., 2009). For instance, Walitzer and Sher (1996), found that self-esteem was prospectively associated with alcohol use across the college years for female students but not for male students. While morally-based and contingent self-esteem specifically have been examined in relation to drinking motives and alcohol consumption separately, no work to date has examined the role of global self-esteem in the association between each drinking motive and alcohol consumption in female college students, despite evidence that global self-esteem is related to alcohol consumption for females only.

In summary, specific types of self-esteem (i.e., morally-based self-esteem, contingent self-esteem) have been linked to endorsement of all four types of drinking motives (i.e., enhancement, social, conformity, and coping), which in turn represent strong predictors of alcohol consumption. Global self-esteem has been linked to alcohol consumption, but no work has examined how global self-esteem might influence the associations between each drinking motive and alcohol consumption among female college students. Given the

aforementioned gaps in the literature, the purpose of the present study was to explore the role of self-esteem in the association between drinking motives and alcohol use in a sample of female college students. We hypothesized that higher self-esteem would be associated with lower scores on all categories of motives for drinking as well as decreased alcohol consumption. Further, we hypothesized that self-esteem would moderate the association between drinking motives and alcohol consumption, such that the relation would be significant among those with low, but not high, self-esteem.

Materials and Methods

Participants and Procedures

The present study is a secondary analysis of data drawn from a larger study examining the role of positive affect on the relationship between college student stress and alcohol use (Schick et al., in press). See Table 1 for the sample's demographic characteristics. Participants were drawn from a sample of 350 undergraduate students enrolled at a state university in New England. Potential participants were recruited through online advertisements in classes, and those interested in participating provided informed consent and completed a survey on Qualtrics (data collection platform). The survey took approximately 30 minutes to complete, and participants did not receive compensation for completing the survey. All procedures were approved by the university Institutional Review Board. For the purpose of the present study, we excluded those participants who did not identify as female and/or did not report past-month alcohol use ($n = 154$). Thus, the final sample consisted of 196 female students who reported having had at least one alcoholic drink in the past month.

Measures

Drinking motives were measured using the Drinking Motives Questionnaire – Revised (DMQ-R; Cooper, 1994). The DMQ-R contains 20 self-report items across four subscales (i.e., enhancement, coping, social, and conformity) measured with five possible response options (1 = *almost never/never*, 5 = *almost always/always*). Subscale scores are created by summing appropriate items, with higher scores indicating more frequent endorsement of drinking due to each motive. Cronbach's alphas in the present study were good, $\alpha = .87$, $.87$, $.90$, and $.86$ for the enhancement, coping, social, and conformity motive subscales, respectively.

Self-esteem was measured using the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965), a 10-item self-report measure of self-worth including positive (e.g. "I take a positive attitude toward myself") and negative (e.g. "I certainly feel useless at times") feelings about oneself. Participants rated each item in terms of how they generally felt about themselves on a Likert-type scale with 4 possible response options (1 = *strongly disagree*, 4 = *strongly agree*). Negative items were reverse coded, and scores were totaled, with higher scores indicating greater self-esteem. Cronbach's alpha in the current sample was excellent, $\alpha = .90$.

Alcohol consumption was measured using the National Institute on Alcohol Abuse and Alcoholism recommended Six Question Set (2003), which includes open-ended questions about past month frequency of alcohol use and quantity of drinks consumed. For the present analyses, the items regarding drinking frequency (i.e. “in the past month, on average how many days did you drink alcohol?”) was multiplied by drinking quantity (i.e. “in the past month, on average how many drinks did you have each time you drank?”) to create a total consumption score reflecting approximate number of alcoholic drinks consumed per month, a derived score which has been used previously in extant research (Beard et al., 2019; Lima et al., 2005). Higher total scores reflect greater alcohol consumption.

Analytic Strategy

All analyses for the present study were conducted in IBM SPSS Statistics v.26. First, descriptive statistics, frequencies, and Pearson product-moment correlations were examined to assess for assumptions (Harlow, 2014; Tabachnick et al., 2007). Next, four linear regression analyses tested whether self-esteem moderated the relationship between drinking motives and alcohol consumptions using the PROCESS SPSS macro as recommended by Hayes (2018). The PROCESS macro uses bootstrapping and ordinary least squares (OLS) regression to estimate model coefficients, conferring more statistical power than standard approaches of statistical inference (Hayes, 2018). Each of the drinking motives and self-esteem were mean-centered and product terms were created for each interaction. Bootstrapping was done with 5,000 random samples generated from the observed covariance matrix to estimate significance values and 95% confidence intervals (CIs). Finally, simple slopes analyses were conducted for all significant interactions; the relation between drinking motives and alcohol consumption was probed at high (one *SD* above the mean) and low (one *SD* below the mean) levels of self-esteem (Hayes, 2018).

Supplementary analyses tested whether self-esteem moderated the relationship between each of the drinking motives and alcohol consumption in one linear regression model to account for shared variance between the motives. Then, all nonsignificant interaction terms were removed from the model to increase model parsimony. For significant interactions, simple slopes analyses were conducted; the relation between drinking motives and alcohol consumption was probed at high (one *SD* above the mean) and low (one *SD* below the mean) levels of self-esteem (Hayes, 2018).

Results

Scores for primary variables of interest were approximately normally distributed based on established guidelines that absolute values of skewness > 2 and kurtosis > 4 indicate non-normality (Kim, 2013; West et al., 1995). See Table 2 for all bivariate correlations among variables of interest. Pearson product-moment correlations revealed a significant positive correlation between alcohol consumption and enhancement ($r = .40, p < .001$), coping ($r = .39, p < .001$), social ($r = .34, p < .001$), and conformity ($r = .19, p = .01$) motives. Further, self-esteem was significantly negatively correlated with coping ($r = -.40, p < .001$) and conformity ($r = -.22, p = .002$) drinking motives, but was not significantly related to

enhancement or social drinking motives. Self-esteem was not significantly associated with alcohol consumption.

Moderation analyses examined the main and interactive effects of each category of drinking motives and self-esteem on alcohol consumption, as summarized in Table 3. Significant main effects were detected for enhancement ($b = 1.49$, $SE = 0.25$, $p < .001$), coping ($b = 1.73$, $SE = 0.31$, $p < .001$), and social ($b = 1.34$, $SE = 0.26$, $p < .001$), but not conformity drinking motives. In each model, self-esteem was not significantly associated with alcohol consumption. The interaction between conformity motives and self-esteem was significant ($b = -0.17$, $SE = 0.08$, $p = .04$). As illustrated in Figure 1, analysis of simple slopes revealed that conformity motives were significantly positively related to alcohol consumption for those with low levels of self-esteem ($b = 1.53$, $SE = 0.46$, $p = .001$), but were not significant at high levels of self-esteem ($b = -0.39$, $SE = 0.76$, $p = .61$).

Supplementary analyses examined the interaction of drinking motives by self-esteem when entered into one model; the overall model with all interactions was significant, $F(9, 187) = 6.143$, $R^2 = 0.24$, $p < .001$. To increase parsimony of the model, we removed all nonsignificant interactions and re-ran the model; results are summarized in Table 4. The adjusted overall model remained significant, $F(6, 187) = 9.016$, $R^2 = 0.23$, $p < .001$. Significant main effects were detected for coping drinking motives ($\beta = .24$, $b = 0.94$, $SE = 0.36$, $p = .01$), but not for enhancement, social, or conformity motives; self-esteem was also not significantly associated with alcohol consumption. The interaction between conformity motives and self-esteem was significant ($\beta = -.17$, $b = -0.17$, $SE = 0.07$, $p = .02$); however, when controlling for other drinking motives, analysis of simple slopes revealed that conformity motives were not significantly positively related to alcohol consumption at low ($\beta = .12$, $b = 0.65$, $SE = 0.46$, $p = .15$) or high levels of self-esteem ($\beta = -.24$, $b = -1.27$, $SE = 0.72$, $p = .08$).

Discussion

The goal of the present study was to extend previous research by examining self-esteem as a moderator of the association between drinking motives and alcohol consumption in a sample of female undergraduate students. Consistent with previous research findings, all four categories of drinking motives were significantly positively correlated with alcohol consumption (Cooper et al., 2016a; Crutzen et al., 2013). Further, at the bivariate level, high self-esteem was significantly associated with lower endorsement of coping and conformity motives for drinking but was not significantly associated with alcohol consumption, enhancement motives, or social motives. These bivariate findings regarding the significant association between self-esteem and conformity motives are consistent with self-determination (Deci & Ryan, 1980, 2004) and sociometer theories (Leary, 2005; Leary & Baumeister, 2000) of self-esteem, while the significant association between self-esteem and coping motives is consistent with terror management theories of self-esteem (Greenberg et al., 1986). Our primary analyses found that self-esteem moderated the link between conformity motives and alcohol consumption, such that this association was significant for individuals with low but not high self-esteem. Self-esteem did not significantly moderate the relationship between any other drinking motives and alcohol consumption. Prior literature

has suggested that conformity motives are strongly associated with drinking in situations where there may be greater pressure to conform, such as at parties or with other students who drink (Cooper, 1994; Corbin et al., 2011; Lewis et al., 2008). These findings are consistent with self-determination (Deci & Ryan, 1980, 2004) and sociometer theories of self-esteem (Leary, 2005; Leary & Baumeister, 2000) suggesting that drinking motives relating to belonging with others might be particularly salient for individuals with low self-esteem and with literature that found drinking to avoid aversive negative states or outcomes (e.g. social pressure, awkwardness, or rejection) is most common among females (Nolen-Hoeksema, 2004, 2012) and among individuals who report lower self-esteem (Cooper et al., 2016b; Stewart & Devine, 2000). These findings may also reflect literature suggesting that individuals with low levels of self-esteem may be more prone to conformity (Uslu, 2013), such as in situations where they experience peer pressure to drink alcohol. Perhaps female students with higher self-esteem, as compared to those lower in self-esteem, are more likely to identify and engage in protective behavioral strategies (e.g., drinking water in between alcoholic drinks) while around others who are drinking, which leads to consuming less alcohol (Zeigler-Hill et al., 2012). These findings suggest it is important to assess self-esteem among female college students who are referred for alcohol use treatment and who report “drinking to fit in,” as increasing self-esteem may help reduce alcohol consumption. For those who report lower self-esteem, therapeutic interventions such as cognitive-behavioral strategies (e.g., challenging negative automatic thoughts about oneself) that target self-esteem could confer benefits with respect to reducing alcohol consumption because individuals do not feel as though they have to drink to fit in (Emler, 2001). Indeed, a cognitive-behavioral therapy approach designed specifically for use with females and with an explicit focus on boosting self-confidence (similar to self-esteem) has been found to be effective in assisting women in reducing their alcohol consumption (Epstein et al., 2018a; Epstein et al., 2018c). Alternatively, interventions such as Acceptance and Commitment Therapy (ACT) may be useful to target alcohol use for individuals with low self-esteem, as mindful acceptance has been found to buffer the effects of low self-esteem on mental health outcomes, such as depression (Michalak et al., 2011). Further, ACT has been found to result in significant improvements in self-esteem among individuals who are seeking treatment for substance use (Luoma et al., 2008b). The utility of such programming should be tested with college females in particular, as previous investigations into their efficacy have used samples largely comprised of older women (e.g., Epstein et al., 2018b; Epstein et al., 2018c; Luoma et al., 2008a) and mixed-gender samples (e.g., Luoma et al., 2008a).

While there were significant bivariate associations, self-esteem was not a significant moderator of the association between coping motives and alcohol consumption. The finding that high self-esteem is correlated with lower endorsement of drinking to ameliorate negative affective states is consistent with previous literature. Individuals with higher self-esteem are more likely to perceive difficult situations as controllable and are more able to identify and utilize effective strategies aimed at changing the cause of a problem (Dodgson & Wood, 1998) rather than using alcohol use to cope. Perhaps self-esteem was able to buffer the effects of conformity motives (which are inherently social in nature), but did not buffer against coping motives (which are more internally driven or more driven by psychopathology; Cooper, 1994; Cooper et al., 2016b) because of differing sources from

which students derive their self-esteem. For instance, students may be more likely to derive their self-esteem from interpersonal sources (i.e., other people's evaluations of them; Neighbors et al., 2004) than intrapersonal (i.e., their own personal evaluations of themselves) sources; previous work has suggested that the sources of self-esteem may relate differentially to each drinking motive and alcohol consumption (Lewis et al., 2007; Neighbors et al., 2004; Schick et al., 2020a). Thus, future work should evaluate various sources of self-esteem simultaneously as they relate to drinking motives and alcohol consumption to parse out these associations more fully, as efforts to increase self-esteem stemming from internal self-evaluations may be more protective against coping motives and alcohol consumption than self-esteem as a broad construct. Alternatively, other factors (e.g., psychopathology) may influence the associations of coping motives, alcohol use, and self-esteem. For instance, depressive symptoms have been found to significantly increase risk for drinking to cope among college students (Holt et al., 2013), and among female students in particular (Kenney et al., 2015). Depressive symptoms has also been robustly linked to low self-esteem (Orth & Robins, 2013). Future work should examine how such pathology may be influencing these associations for female college students.

Lastly, the finding that self-esteem was not significantly correlated with either enhancement or social motives for drinking was somewhat surprising given previous literature finding significant associations between all drinking motives and self-esteem (for a review, see Cooper et al., 2016b). These discrepant findings may also be related to individuals' sources of self-esteem or may be related to characteristics of the samples under investigations. For instance, students who evaluate themselves positively may not be highly motivated to drink alcohol to improve social situations, whereas those whose self-esteem is based on how they believe others to perceive them may be motivated to drink in such situations, as they believe it will act as a "social lubricant" (Monahan & Lannutti, 2000). Further, in light of previous research suggesting that self-esteem may be better conceptualized as a multidimensional construct rather than unidimensional (as is measured by the Rosenberg Self-Esteem Scale; Schick et al., 2020a; Swaim & Wayman, 2004; Young et al., 1989), it is possible that enhancement and social motives are more strongly related to specific types of self-esteem rather than to self-esteem more globally. For instance, previous work found that self-esteem derived from intrapersonal sources (e.g., "I like myself") was protective against alcohol use, whereas self-esteem derived from interpersonal sources (e.g., "Other people like me") confers risk for alcohol consumption (Schick et al., 2020a). The finding that different types of self-esteem have opposite relations with alcohol use suggests that there may be some suppression effect at play when self-esteem is measured globally. Future research is needed to continue to elucidate these associations, including through examination of the relations among specific facets of self-esteem and enhancement and social motives. Alternatively, in light of extant literature suggesting that global self-esteem is only related to alcohol consumption for females, it may be that enhancement and social motives are more important to understand male students' alcohol use, and that these motives are less relevant for female students. Indeed, previous literature suggests that college males are more likely to endorse both enhancement and social motives for drinking compared to their female peers (Ham et al., 2009; Kuntsche et al., 2005; Wild et al., 2001). Additional work is needed to continue to examine for whom and in what contexts these associations may be most relevant, including

through examination of individuals representing various sex and gender groups (i.e., both males and females, but also including members of minoritized sex and gender groups) as they may have important implications for intervention targets.

These findings should be considered within the context of the study's limitations. Firstly, the cross-sectional and correlational nature of the data precludes determination of the precise nature and direction of the relationships under investigation. Future work should incorporate prospective, longitudinal designs to better examine the temporal relations among these variables. Second, the drinking motives included in the present study alone do not fully explain female college students' alcohol consumption (evidenced by the somewhat small correlations among drinking motives and alcohol consumption in the present study). Indeed, there are other factors known to be associated with alcohol use that were not included in the present study (e.g., alcohol expectancies, coping strategies, mental health symptomatology; Boden & Fergusson, 2011; Hasking & Oei, 2002). Third, it is worth noting that the data collected in the parent study assessed participant sex (e.g., male/female) only and did not include measurement of participant gender. Throughout this manuscript, we refer to our participants as female, but use terms regarding gender (e.g., women) when the literature we cite used this language in an attempt to avoid the conflation of sex and gender and in recognition that they constitute separate constructs. However, future research should rigorously measure both sex and gender to avoid perpetuating their conflation and to characterize the sample under investigation more accurately. Further, these data were based entirely on individual's self-report, which may be influenced by ability and/or willingness to respond accurately. It is possible that our sample (comprised of largely first year college students under the legal drinking age) may have misreported the frequency or amount they were drinking because they were concerned about legal ramifications of reporting alcohol use, or because they believed that reporting less alcohol use would be socially desirable, which may have influenced study results (Van de Mortel, 2008). Next, the present study did not include a measure of alcohol-related problems, which are more strongly related to certain drinking motives (i.e., coping motives; Merrill et al., 2014), and are an important area for future research. Finally, the use of a single college sample made up of largely first-year students precludes the ability to generalize findings to the general population and potentially to other universities. Yet, examination of the associations among college females in particular is important in light of historic inequalities in psychology research. While female participants are increasingly represented in research more recently, they have historically not been adequately included as participants in seminal psychological research (Denmark & Zarbiv, 2017; Schick et al., 2020b), which introduces bias and increases the risk that clinical recommendations stemming from research is not sufficiently considerate of potential sex-specific factors (Howard et al., 2017). Studies specifically focusing on females remain few and far between despite the unique challenges experienced by females (e.g., certain consequences related to alcohol use; Barnett et al., 2014; Sugarman et al., 2009). Additionally, our sample being comprised primarily of first-year college students may have contributed to the unique role of self-esteem that we observed in the association between conformity motives and alcohol use. It may be that conformity motives are particularly important for first-year students, as it may be the first time that students are in certain drinking contexts. Thus, self-esteem may be particularly

important for female college students in their first year. It will be important for future research to examine these associations in a more diverse, non-college sample, especially with a more representative racial/ethnic distribution to understand for whom self-esteem is related to alcohol consumption and drinking motives more fully. Further, future work may benefit from looking more specifically at groups of college students based on drinking characteristics, such as heavy-drinking female students.

Despite these limitations, findings of the present study improve our understanding of the role of self-esteem in the association between drinking motives and alcohol consumption among female college students. Specifically, our results suggest that that self-esteem buffers against the effects of conformity motives for drinking, such that the association between these motives and alcohol consumption is only significant for those reporting low self-esteem. Thus, assisting female college students with increasing their self-esteem may be an effective component of prevention and intervention programs targeting alcohol consumption.

Acknowledgements:

The authors wish to extend their gratitude to Jenna Monteiro, MSW, who played a critical role in the early conceptualization of this project.

Funding Source:

This work was supported by the National Institute on Drug Abuse under Grant F31DA053754.

References

- Abbey A (2002). Alcohol-related sexual assault: A common problem among college students. *Journal of Studies on Alcohol*, *S14*(14), 118. 10.15288/jsas.2002.s14.118
- Barnett NP, Clerkin EM, Wood M, Monti PM, O’Leary Tevyaw T, Corriveau D, Fingeret A, & Kahler CW (2014). Description and predictors of positive and negative alcohol-related consequences in the first year of college. *Journal of Studies on Alcohol and Drugs*, *75*(1), 103–114. 10.15288/jsad.2014.75.103 [PubMed: 24411802]
- Beard E, Brown J, West R, Kaner E, Meier P, & Michie S (2019). Associations between socio-economic factors and alcohol consumption: A population survey of adults in England. *PloS one*, *14*(2), e0209442. 10.1371/journal.pone.0209442 [PubMed: 30716098]
- Blank M-L, Connor J, Gray A, & Tustin K (2016). Alcohol use, mental well-being, self-esteem and general self-efficacy among final-year university students. *Soc Psychiatry Psychiatr Epidemiol*, *51*(3), 431–441. 10.1007/s00127-016-1183-x [PubMed: 26831492]
- Blevins CE, & Stephens RS (2016). The impact of motives-related feedback on drinking to cope among college students. *Addictive Behaviors*, *58*, 68–73. 10.1016/j.addbeh.2016.02.024 [PubMed: 26914263]
- Boden JM, & Fergusson DM (2011). Alcohol and depression. *Addiction*, *106*(5), 906–914. 10.1111/j.1360-0443.2010.03351.x [PubMed: 21382111]
- Carey KB, & Correia CJ (1997). Drinking motives predict alcohol-related problems in college students. *Journal of Studies on Alcohol*, *58*(1), 100–105. 10.15288/jsa.1997.58.100 [PubMed: 8979218]
- Cooper ML (1994). Motivations for alcohol use among adolescents: Development and validation of a four-factor model. *Psychological assessment*, *6*(2), 117. 10.1037/1040-3590.6.2.117
- Cooper ML, Frone MR, Russell M, & Mudar P (1995). Drinking to regulate positive and negative emotions: A motivational model of alcohol use. *Journal of personality and social psychology*, *69*(5), 990. 10.1037/0022-3514.69.5.990 [PubMed: 7473043]

- Cooper ML, Kuntsche E, Levitt A, Barber LL, & Wolf S (2016a). Motivational models of substance use: A review of theory and research on motives for using alcohol, marijuana, and tobacco. Oxford University Press. 10.1093/oxfordhb/9780199381678.013.017
- Cooper ML, Kuntsche E, Levitt A, Barber LL, & Wolf S (2016b). Motivational models of substance use: A review of theory and research on motives for using alcohol, marijuana, and tobacco.
- Corbin WR, Iwamoto DK, & Fromme K (2011). Broad social motives, alcohol use, and related problems: Mechanisms of risk from high school through college. *Addictive Behaviors*, 36(3), 222–230. 10.1016/j.addbeh.2010.11.004 [PubMed: 21126828]
- Crocker J (2002). The costs of seeking self-esteem. *Journal of Social Issues*, 58(3), 597–615. 10.1111/1540-4560.00279
- Crutzen R, Kuntsche E, & Schelleman-Offermans K (2013). Drinking motives and drinking behavior over time: A full cross-lagged panel study among adults. *Psychology of Addictive Behaviors*, 27(1), 197. 10.1037/a0029824 [PubMed: 22925011]
- Deci EL, & Ryan RM (1980). Self-determination theory: When mind mediates behavior. *The Journal of mind and Behavior*, 33–43.
- Deci EL, & Ryan RM (2004). *Handbook of self-determination research*. University Rochester Press.
- Denmark F, & Zarbiv T (2017). Sampling bias and gender. In Nadal KL (Ed.), *The sage encyclopedia of psychology and gender* (pp. 1440–1441). SAGE Publications, Inc. 10.4135/9781483384269.n485
- Dodgson PG, & Wood JV (1998). Self-esteem and the cognitive accessibility of strengths and weaknesses after failure. *Journal of personality and social psychology*, 75(1), 178. 10.1037/0022-3514.75.1.178 [PubMed: 9686458]
- Emler N (2001). *Self esteem: The costs and causes of low self worth*. York Publishing Services.
- Engs R, & Hanson D (1990). Gender differences in drinking patterns and problems among college students: A review of the literature. *Journal of Drug and Alcohol Education*, 35, 36–47.
- Epstein EE, McCrady BS, Hallgren KA, Cook S, Jensen NK, & Hildebrandt T (2018a). A randomized trial of female-specific cognitive behavior therapy for alcohol dependent women. *Psychology of Addictive Behaviors*, 32(1), 1. [PubMed: 29154553]
- Epstein EE, McCrady BS, Hallgren KA, Cook S, Jensen NK, & Hildebrandt T (2018b). A randomized trial of female-specific cognitive behavior therapy for alcohol dependent women. *Psychology of Addictive Behaviors*, 32(1), 1–15. 10.1037/adb0000330 [PubMed: 29154553]
- Epstein EE, McCrady BS, Hallgren KA, Gaba A, Cook S, Jensen N, Hildebrandt T, Holzhauer CG, & Litt MD (2018c). Individual versus group female-specific cognitive behavior therapy for alcohol use disorder. *Journal of substance abuse treatment*, 88, 27–43. 10.1016/j.jsat.2018.02.003 [PubMed: 29606224]
- Gray-Little B, Williams VS, & Hancock TD (1997). An item response theory analysis of the rosenberg self-esteem scale. *Personality and Social Psychology Bulletin*, 23(5), 443–451. 10.1177/0146167297235001
- Greenberg J, Pyszczynski T, & Solomon S (1986). The causes and consequences of a need for self-esteem: A terror management theory. In *Public self and private self* (pp. 189–212). Springer.
- Ham LS, Zamboanga BL, Bacon AK, & Garcia TA (2009). Drinking motives as mediators of social anxiety and hazardous drinking among college students. *Cogn Behav Ther*, 38(3), 133–145. [PubMed: 19306146]
- Hammer T, & Pape H (1997). Alcohol-related problems in young people: How are such problems linked to gender, drinking levels, and cannabis use? *Journal of Drug Issues*, 27(4), 713–732. 10.1177/002204269702700403
- Harlow LL (2014). *The essence of multivariate thinking: Basic themes and methods* (2nd ed.). Routledge.
- Hasking PA, & Oei TPS (2002). The differential role of alcohol expectancies, drinking refusal self-efficacy and coping resources in predicting alcohol consumption in community and clinical samples. *Addiction Research & Theory*, 10, 465–494. [Record #15 is using a reference type undefined in this output style.]
- Hayes AF (2018). *Introduction to mediation, moderation and conditional process analysis: A regression-based approach* (2nd ed.). The Guilford Press.

- Hingson R, Zha W, Simons-Morton B, & White A (2016). Alcohol-induced blackouts as predictors of other drinking related harms among emerging young adults. *Alcoholism: Clinical and Experimental Research*, 40(4), 776–784. 10.1111/acer.13010
- Hingson R, Zha W, & Smyth D (2017). Magnitude and trends in heavy episodic drinking, alcohol-impaired driving, and alcohol-related mortality and overdose hospitalizations among emerging adults of college ages 18–24 in the united states, 1998–2014. *Journal of Studies on Alcohol and Drugs*, 78(4), 540–548. 10.15288/jsad.2017.78.540 [PubMed: 28728636]
- Holt LJ, Armeli S, Tennen H, Austad CS, Raskin SA, Fallahi CR, Wood R, Rosen RI, Ginley MK, & Pearlson GD (2013). A person-centered approach to understanding negative reinforcement drinking among first year college students. *Addictive Behaviors*, 38(12), 2937–2944. 10.1016/j.addbeh.2013.08.015 [PubMed: 24064193]
- Howard LM, Ehrlich AM, Gamlen F, & Oram S (2017). Gender-neutral mental health research is sex and gender biased. *The Lancet Psychiatry*, 4(1), 9–11. [PubMed: 27856394]
- Kenney S, Jones RN, & Barnett NP (2015). Gender differences in the effect of depressive symptoms on prospective alcohol expectancies, coping motives, and alcohol outcomes in the first year of college. *Journal of Youth and Adolescence*, 44(10), 1884–1897. 10.1007/s10964-015-0311-3 [PubMed: 26036995]
- Kim H-Y (2013). Statistical notes for clinical researchers: Assessing normal distribution (2) using skewness and kurtosis. *Restorative dentistry & endodontics*, 38(1), 52–54. 10.5395/rde.2013.38.1.52 [PubMed: 23495371]
- Kucharska J (2018). Cumulative trauma, gender discrimination and mental health in women: Mediating role of self-esteem. *Journal of Mental Health*, 27(5), 416–423. [PubMed: 29260963]
- Kuntsche E, & Cooper ML (2010). Drinking to have fun and to get drunk: Motives as predictors of weekend drinking over and above usual drinking habits. *Drug and alcohol dependence*, 110(3), 259–262. 10.1016/j.drugalcdep.2010.02.021 [PubMed: 20363080]
- Kuntsche E, Knibbe R, Gmel G, & Engels R (2005). Why do young people drink? A review of drinking motives. *Clinical psychology review*, 25(7), 841–861. 10.1016/j.cpr.2005.06.002 [PubMed: 16095785]
- Kypri K, Langley J, & Stephenson S (2005). Episode-centred analysis of drinking to intoxication in university students. *Alcohol and Alcoholism*, 40(5), 447–452. 10.1093/alcalc/agh178 [PubMed: 15996969]
- Leary MR (2005). Sociometer theory and the pursuit of relational value: Getting to the root of self-esteem. *European Review of Social Psychology*, 16(1), 75–111.
- Leary MR, & Baumeister RF (2000). The nature and function of self-esteem: Sociometer theory. In *Advances in experimental social psychology* (Vol. 32, pp. 1–62). Elsevier.
- Lewis MA, Hove MC, Whiteside U, Lee CM, Kirkeby BS, Oster-Aaland L, Neighbors C, & Larimer ME (2008). Fitting in and feeling fine: Conformity and coping motives as mediators of the relationship between social anxiety and problematic drinking. *Psychology of Addictive Behaviors*, 22(1), 58. 10.1037/0893-164X.22.1.58 [PubMed: 18298231]
- Lewis MA, Phillippi J, & Neighbors C (2007). Morally based self-esteem, drinking motives, and alcohol use among college students. *Psychology of Addictive Behaviors*, 21(3), 398. 10.1037/0893-164X.21.3.398 [PubMed: 17874890]
- Lima CT, Freire ACC, Silva APB, Teixeira RM, Farrell M, & Prince M (2005). Concurrent and construct validity of the audit in an urban brazilian sample. *Alcohol and Alcoholism*, 40(6), 584–589. 10.1093/alcalc/agh202 [PubMed: 16143704]
- Luhtanen R, & Crocker J (2002). Fragile self-esteem and alcohol use in college students. Unpublished manuscript.
- Luhtanen RK, & Crocker J (2005). Alcohol use in college students: Effects of level of self-esteem, narcissism, and contingencies of self-worth. *Psychology of Addictive Behaviors*, 19(1), 99. 10.1037/0893-164X.19.1.99 [PubMed: 15783284]
- Luoma JB, Kohlenberg BS, Hayes SC, Bunting K, & Rye AK (2008a). Reducing self-stigma in substance abuse through acceptance and commitment therapy: Model, manual development, and pilot outcomes. *Addiction Research & Theory*, 16(2), 149–165. 10.1080/16066350701850295 [PubMed: 27746709]

- Luoma JB, Kohlenberg BS, Hayes SC, Bunting K, & Rye AK (2008b). Reducing self-stigma in substance abuse through acceptance and commitment therapy: Model, manual development, and pilot outcomes. *Addiction Research & Theory*, 16(2), 149–165. 10.1080/16066350701850295 [PubMed: 27746709]
- Merrill JE, & Read JP (2010). Motivational pathways to unique types of alcohol consequences. *Psychology of Addictive Behaviors*, 24(4), 705. 10.1037/a0020135 [PubMed: 20822194]
- Merrill JE, Wardell JD, & Read JP (2014). Drinking motives in the prospective prediction of unique alcohol-related consequences in college students. *Journal of Studies on Alcohol and Drugs*, 75(1), 93–102. 10.15288/jsad.2014.75.93 [PubMed: 24411801]
- Michalak J, Teismann T, Heidenreich T, Ströhle G, & Vocks S (2011). Buffering low self-esteem: The effect of mindful acceptance on the relationship between self-esteem and depression. *Personality and Individual Differences*, 50(5), 751–754.
- Moksnes UK, & Espnes GA (2012). Self-esteem and emotional health in adolescents—gender and age as potential moderators. *Scandinavian Journal of Psychology*, 53(6), 483–489. [PubMed: 23170865]
- Monahan JL, & Lannutti PJ (2000). Alcohol as social lubricant: Alcohol myopia theory, social self-esteem, and social interaction. *Human Communication Research*, 26(2), 175–202. 10.1111/j.1468-2958.2000.tb00755.x
- National Institute on Alcohol Abuse and Alcoholism (NIAAA). (2003). Recommended alcohol questions: Six question set. <https://www.niaaa.nih.gov/research/guidelines-and-resources/recommended-alcohol-questions>
- Neighbors C, Larimer ME, Markman Geisner I, & Knee CR (2004). Feeling controlled and drinking motives among college students: Contingent self-esteem as a mediator. *Self and Identity*, 3(3), 207–224. 10.1080/13576500444000029
- Neumann CA, Leffingwell TR, Wagner EF, Mignogna J, & Mignogna M (2009). Self-esteem and gender influence the response to risk information among alcohol using college students. *Journal of substance use*, 14(6), 353–363. 10.3109/14659890802654540
- Nolen-Hoeksema S (2004). Gender differences in risk factors and consequences for alcohol use and problems. *Clinical psychology review*, 24(8), 981–1010. 10.1016/j.cpr.2004.08.003 [PubMed: 15533281]
- Nolen-Hoeksema S (2012). Emotion regulation and psychopathology: The role of gender. *Annual review of clinical psychology*, 8, 161–187. 10.1146/annurev-clinpsy-032511-143109
- O'Brien KS, Hunter J, Kypri K, & Ali A (2008). Gender equality in university sportspeople's drinking. *Drug and Alcohol Review*, 27(6), 659–665. [PubMed: 19378448]
- Orth U, & Robins RW (2013). Understanding the link between low self-esteem and depression. *Current directions in psychological science*, 22(6), 455–460. 10.1177/0963721413492763
- Patrick ME, & Schulenberg JE (2010). Alcohol use and heavy episodic drinking prevalence and predictors among national samples of american eighth-and tenth-grade students. *Journal of Studies on Alcohol and Drugs*, 71(1), 41–45. 10.15288/jsad.2010.71.41 [PubMed: 20105412]
- Read JP, Wood MD, Kahler CW, Maddock JE, & Palfai TP (2003). Examining the role of drinking motives in college student alcohol use and problems. *Psychology of Addictive Behaviors*, 17(1), 13. 10.1037/0893-164X.17.1.13 [PubMed: 12665077]
- Richardson CG, Kwon J-Y, & Ratner PA (2013). Self-esteem and the initiation of substance use among adolescents. *Canadian Journal of Public Health*, 104(1), e60–e63. 10.1007/BF03405656
- Rosenberg M (1965). *Society and the adolescent self-image*. Princeton University Press.
- Rosenberg M, Schooler C, Schoenbach C, & Rosenberg F (1995). Global self-esteem and specific self-esteem: Different concepts, different outcomes. *American Sociological Review*, 141–156.
- Schick MR, Nalven T, & Spillane NS (2020a). The factor structure of self-esteem and its association with alcohol use in american indian adolescents. *American Journal of Orthopsychiatry*, 90(6), 712–719. 10.1037/ort0000504
- Schick MR, Spillane NS, & Breines JG (in press). The role of positive affect in the association between stress and college student alcohol use. *Journal of American College Health*.
- Schick MR, Spillane NS, & Hostetler KL (2020b). A call to action: A systematic review examining the failure to include females and members of minoritized racial/ethnic groups in clinical trials

of pharmacological treatments for alcohol use disorder. *Alcoholism: Clinical and Experimental Research*, 44(10), 1933–1951.

- Schulenberg JE, Johnston LD, O'Malley PM, Bachman JG, Miech RA, & Patrick ME (2020). College students & adults ages 19 - 60 (Monitoring the Future National Survey Results on Drug Use 1975-2019, Issue. <http://monitoringthefuture.org/pubs.html#monographs>
- Stewart SH, & Devine H (2000). Relations between personality and drinking motives in young adults. *Personality and Individual Differences*, 29(3), 495–511. 10.1016/S0191-8869(99)00210-X
- Sugarman DE, DeMartini KS, & Carey KB (2009). Are women at greater risk? An examination of alcohol-related consequences and gender. *The American Journal on Addictions*, 18(3), 194–197. 10.1080/10550490902786991 [PubMed: 19340637]
- Swaim RC, & Wayman JC (2004). Multidimensional self-esteem and alcohol use among Mexican American and white non-Latino adolescents: Concurrent and prospective effects. *American Journal of Orthopsychiatry*, 74(4), 559–570. 10.1037/0002-9432.74.4.559
- Tabachnick BG, Fidell LS, & Ullman JB (2007). *Using multivariate statistics* (Vol. 5). Pearson Boston, MA.
- Thompson K, Davis-MacNevin P, Teehan M, Stewart S, & Team CCR (2017). The association between secondhand harms from alcohol and mental health outcomes among postsecondary students. *Journal of Studies on Alcohol and Drugs*, 78(1), 70–78. 10.137/journal.pone.0216378 [PubMed: 27936366]
- Uslu M (2013). Relationship between degrees of self-esteem and peer pressure in high school adolescents. *International Journal of Academic Research*, 5(3), 117–122. 10.7813/2075-4124.2013/5-3/B.19
- Van Damme J, Maes L, Clays E, Rosiers JF, Van Hal G, & Hublet A (2013). Social motives for drinking in students should not be neglected in efforts to decrease problematic drinking. *Health Education Research*, 28(4), 640–650. 10.1093/her/cyt036 [PubMed: 23487559]
- Veselska Z, Geckova AM, Orosova O, Gajdosova B, van Dijk JP, & Reijneveld SA (2009). Self-esteem and resilience: The connection with risky behavior among adolescents. *Addictive Behaviors*, 34(3), 287–291. 10.1016/j.addbeh.2008.11.005 [PubMed: 19056183]
- Walitzer KS, & Sher KJ (1996). A prospective study of self-esteem and alcohol use disorders in early adulthood: Evidence for gender differences. *Alcoholism: Clinical and Experimental Research*, 20(6), 1118–1124. 10.1111/j.1530-0277.1996.tb01956.x
- Watt M, Stewart S, Birch C, & Bernier D (2006). Brief CBT for high anxiety sensitivity decreases drinking problems, relief alcohol outcome expectancies, and conformity drinking motives: Evidence from a randomized controlled trial. *Journal of Mental Health*, 15(6), 683–695. 10.1080/09638230600998938
- West S, Finch J, & Curran P (1995). *Structural equation modeling: Concepts, issues and applications*. SAGE Publications.
- Wild TC, Hinson R, Cunningham J, & Bacchiochi J (2001). Perceived vulnerability to alcohol-related harm in young adults: Independent effects of risky alcohol use and drinking motives. *Experimental and Clinical Psychopharmacology*, 9(1), 117. [PubMed: 11519627]
- Young M, Werch CE, & Bakema D (1989). Area specific self-esteem scales and substance use among elementary and middle school children. *Journal of School Health*, 59(6), 251–254. 10.1111/j.1746-1561.1989.tb04716.x
- Zeigler-Hill V, Madson MB, & Ricedorf A (2012). Does self-esteem moderate the associations between protective behavioral strategies and negative outcomes associated with alcohol consumption? *Journal of Drug Education*, 42(2), 211–227. 10.2190/DE.42.2.f [PubMed: 23185839]

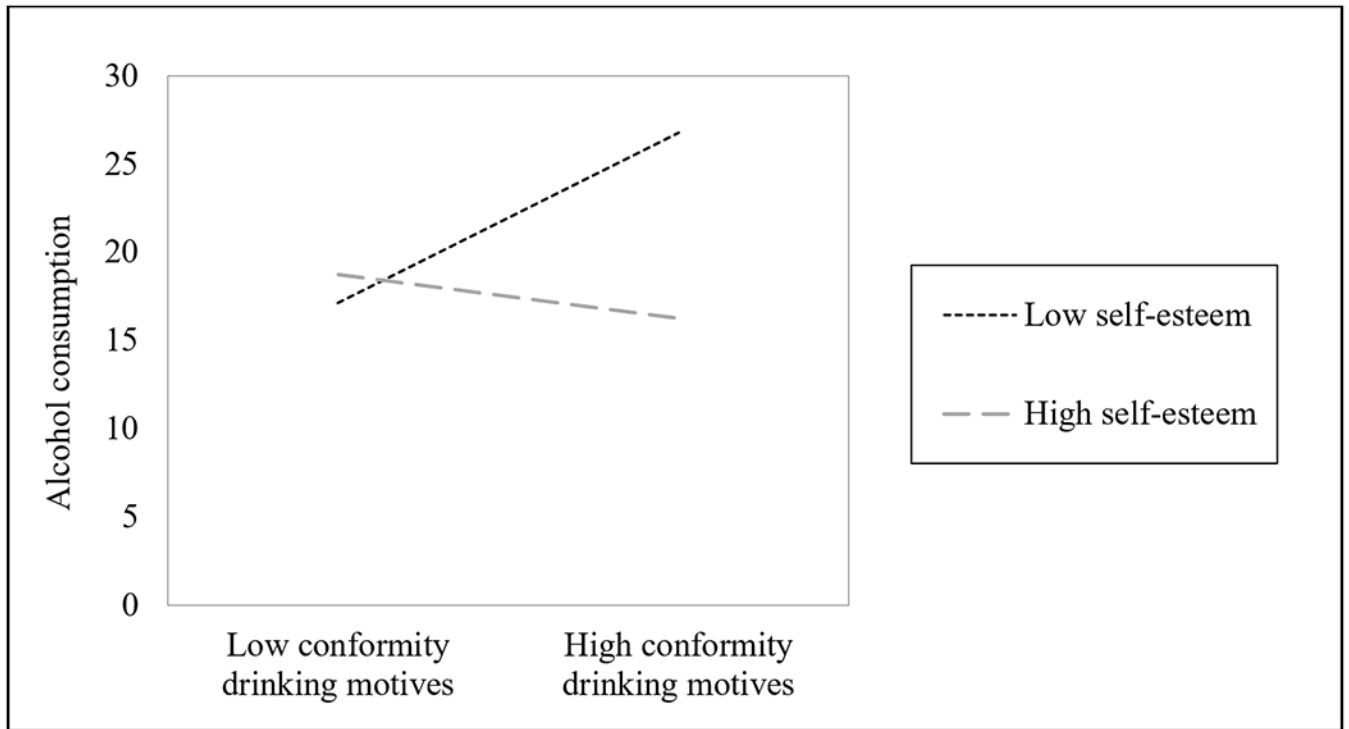


Figure 1.
Conformity Motives by Self-Esteem Interaction for Alcohol Consumption

Table 1

Sample Demographic Characteristics

	<i>M (SD)</i>	Range	<i>n (%)</i>
Age	19.48 (2.04)	18–40	
Hispanic			8 (4.1%)
Race/Ethnicity			
American Indian/Alaskan Native			2 (1.0%)
Asian			6 (3.1%)
Native Hawaiian or Other Pacific Islander			1 (0.5%)
Black or African American			3 (1.5%)
White			174 (88.8%)
Multiracial			10 (5.1%)
Year in college			
1 st Year/Freshman			92 (46.9%)
2 nd Year/Sophomore			49 (25.0%)
3 rd Year/Junior			27 (13.8%)
4 th Year/Senior			23 (11.7%)
Other			5 (3.6%)
Past 30-day alcohol use			
Drinking days	5.54 (4.63)	1–27	
Drinks per drinking day	3.41 (1.89)	0.5–13	

Note. Percentages reported are valid percentages to account for missing data.

Table 2

Descriptive Data and Intercorrelations Among Study Variables of Interest

	1	2	3	4	5	6
1. Enhancement motives	-					
2. Coping motives	.55 ^{***}	-				
3. Social motives	.71 ^{***}	.47 ^{***}	-			
4. Conformity motives	.29 ^{***}	.36 ^{***}	.39 ^{***}	-		
5. Self-esteem	-.02	-.40 ^{***}	.03	-.22 ^{**}	-	
6. Alcohol Consumption	.40 ^{***}	.39 ^{***}	.34 ^{***}	.19 [*]	-.08	-
<i>M</i>	13.84	10.61	16.15	7.52	28.58	20.18
<i>SD</i>	5.42	5.06	5.41	3.77	5.73	20.05
Range	5 – 25	5 – 25	5 – 25	5 – 25	10 – 40	0.5 – 100

Note:^{*}
p < .05,^{**}
p < .01,^{***}
p < .001 (two-tailed).

Table 3

Interactions of Each Category of Drinking Motives by Self-Esteem for Alcohol Consumption

	<i>b</i>	<i>SE</i>	<i>t</i>	<i>p</i>	95% CI
<i>Enhancement motives</i>					
Constant	20.00	1.33	15.04	<.001	17.37, 22.62
Self-esteem	-0.21	0.24	-0.88	.38	-0.67, 0.26
Enhancement motives	1.49	0.25	6.07	<.001	1.01, 1.98
Self-esteem X enhancement motives	-0.01	0.04	-0.32	.75	-0.09, 0.07
<i>Coping motives</i>					
Constant	20.19	1.44	14.01	<.001	17.35, 23.03
Self-esteem	0.37	0.26	1.45	.15	-0.13, 0.88
Coping motives	1.73	0.31	5.56	<.001	1.11, 2.34
Self-esteem X coping motives	0.01	0.05	0.30	.76	-0.08, 0.11
<i>Social motives</i>					
Constant	20.08	1.36	14.79	<.001	17.40, 22.76
Self-esteem	-0.30	0.24	-1.25	.21	-0.77, 0.17
Social motives	1.34	0.26	5.24	<.001	0.84, 1.85
Self-esteem X social motives	-0.02	0.04	-0.54	.59	-0.11, 0.06
<i>Conformity motives</i>					
Constant	19.38	1.46	13.31	<.001	16.50, 22.25
Self-esteem	-0.29	0.26	-1.09	.28	-0.81, 0.23
Conformity motives	0.57	0.43	1.32	.19	-0.28, 1.42
Self-esteem X conformity motives	-0.17	0.08	-2.11	.04	-0.32, -0.01

Note. Bolded typeface indicates significance at the $p < .05$ level.

Table 4

Analyses Examining Interaction of All Drinking Motives by Self-Esteem for Alcohol Consumption

	β	<i>b</i>	<i>SE</i>	<i>t</i>	<i>p</i>	95% CI
Constant		19.27	1.35	14.26	<.001	[16.60, 21.94]
Self-esteem	-.004	-0.02	0.27	-0.05	.96	[-0.55, 0.52]
Enhancement motives	.18	0.67	0.37	1.82	.07	[-0.06, 1.40]
Coping motives	.24	0.94	0.36	2.59	.01	[0.22, 1.65]
Social motives	.11	0.42	0.37	1.14	.26	[-0.31, 1.15]
Conformity motives	-.06	-0.31	0.43	-0.71	.48	[-1.15, 0.54]
Self-esteem X conformity motives	-.17	-0.17	0.07	-2.29	.02	[-0.31, -0.02]

Note. Bolded typeface indicates significance at the $p < .05$ level.

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript